

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT

संख्या/ No.: MACHINE - 48/2991/2023
माह/Month: April, 2023

THIS TEST REPORT VALID UP TO : 30th April, 2028



**BONHOEFFER, BON-P-BC36
BRUSH CUTTER (COMMERCIAL)**



भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि एवं किसान कल्याण विभाग

Department of Agriculture and Farmers Welfare

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

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[ISO 9001:2015 CERTIFIED]

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12. FIELD TEST

Field tests were conducted for 12.84 hours with straight blade attachment and 14.09 hours with nylon rope attachment. Detailed results of field tests are shown in Annexure-I & II and summarized in the ensuing table. Details about the operator are shown in Annexure-III.

Sr. No.	Parameters	Seasonal Grass cutting	
		For nylon rope	For straight blade
1	Field condition	Leveled	Leveled
2	Intensity of grass	High	High
3	Number of grass/weed in 1 sq. m	284 to 332	276 to 341
4	Height of grass/weed, cm	14 to 19	15 to 24
5	Diameter of grass/weed, mm	1.4 to 2.3	1.6 to 2.3
6	Mass of grass cut (kg/h)	23.73 to 30.32	18.98 to 26.84
7	Area covered (Rate of work), ha/h	0.027 to 0.034	0.025 to 0.030
8	Time required for one hectare, h	28.86 to 35.54	33.33 to 39.52
9	Fuel consumption	l/h	0.560 to 0.580
		l/ha	16.16 to 19.09
			0.480 to 0.620
			16.0 to 23.84

12.1 Cutting using nylon rope assembly

12.1.1 Rate of work

- i) Area covered (rate of work) was observed as 0.027 to 0.034 ha/h.
- ii) Time required for one hectare was observed as 28.86 to 35.54 hours.
- iii) Mass of grass cut was observed as 23.73 to 30.32 kg/h.
- iv) Number of grass stem in one m² area was 284 to 332.

12.1.2 Fuel consumption

Fuel consumption was observed as 0.56 to 0.58 l/h and 16.16 to 19.09 l/ha.

12.2 Cutting using straight blade

12.2.1 Rate of work

- i) Area covered (rate of work) was observed as 0.025 to 0.030 ha/h.
- ii) Time required for one hectare was observed as 33.33 to 39.52 h.
- iii) Numbers of perennial weed in one square meter are was 276 to 341
- iv) Mass of perennial weed cut was 18.98 to 26.84 kg/h.

12.2.2 Fuel consumption

Fuel consumption was observed as 0.48 to 0.62 l/h. and 16.00 to 23.84 l/ha.

12.3 Labor requirement

To ensure the cutting work without interruption, two operators are required to work alternates. Additionally, one more labor is needed gather the collected bush/weeds.

12.4 Adequacy of power of prime mover

The power of prime mover was found adequate.

12.5 Wear analysis of critical components

Component	Duration of operation (h)	Initial length/mass (mm/g)	Length/Mass after operation (mm/g)	Loss of length/mass (mm/g)	Percentage wear	Percentage wear on hour basis
Nylon rope	14.09	4000	3000	1000	25.00	1.77
Straight blade	12.84	508.3	495.7	12.6	2.48	0.19



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16.	Starting method	Manual/recoil/self-starting	Manual/Recoil Starting	Conforms
17.	Type of clutch	Cone/centrifugal	Centrifugal	Conforms
18.	Type of gear drive	Bevel pinion	Bevel pinion	Conforms
19.	Capacity of fuel tank (l)	1.0 (Min.)	1.2	Conforms
20.	On off provision in fuel supply system	Must be provided	Not provided	Does not conform
21.	Provision for easy start of engine	Must be provided	Provided	Conforms
22.	Provision for emergency stop of engine	Must be provided	Provided	Conforms
23.	Provision for shield/cover to prevent flying of mud and stone from rotor	Must be provided	Provided	Conforms
24.	Provision for Grass deflector at the rear of the cutting mechanism			
25.	Provision for Pad with shoulder bet to dampen the vibration	Must be provided	Provided	Conforms
26.	Provision for cover on exhaust.	Must be provided	Provided	Conforms
27.	Direction of exhaust emission away from operator	Must be provided	Provided	Conforms
28.	Provision for safety kit (helmet, ear plug, mask, hand gloves, safety glass, Protective cloth, safety shoes)	Must be provided	Provided	Conforms
29.	Marking/labeling of machine	The labeling plate should be riveted on the body of machine having Name and address of manufacturer & Applicant, country of origin Make, Model, year of manufacturer, Serial Number, Engine number, Engine HP, rated rpm & SFC.	Just a sticker and not proper labeling plate is provided on the machine with following information. Make-Bonhoeffer Model:-BON-P-BC36 Serial no. HEIE36F-3K-385 ENG. MODEL: BON-P-E2536	Partially conform
30.	Literature	Operator manual, Service manual and Parts catalogue should be provided.	Provided	Conforms

17. COMMENTS AND RECOMMENDATIONS

- 17.1 The amplitude of mechanical vibration marked as (*) on the relevant chapter, are on drastically higher side. It is not just directly concerned with operator's health, safety and comfort, but also adversely affects the useful life of the components. In view of above, this deserved to be given top priority for corrective action.
- 17.2 The on-off provision on fuel supply system is not provided. It must be looked into.



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- 17.3 A suitable labeling plate (not sticker) needs to be provided with "Interlia" following information.
1. Name and address of manufacturer
 2. Name and address of applicant
 3. Country of origin
 4. Make
 5. Model
 6. Year of manufacture
 7. Serial number
 8. Engine number
 9. Engine hp
 10. Rated rpm
 11. SFC

18. TECHNICAL LITERATURE

The User's Manual was provided by the applicant during the test.

- i) Operator's manual
- ii) Service manual
- iii) Parts catalogue

TESTING AUTHORITY

Er. SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 10.04.2023

19. APPLICANT'S COMMENTS

No specific comments received by the applicant.

